

FIG. 1

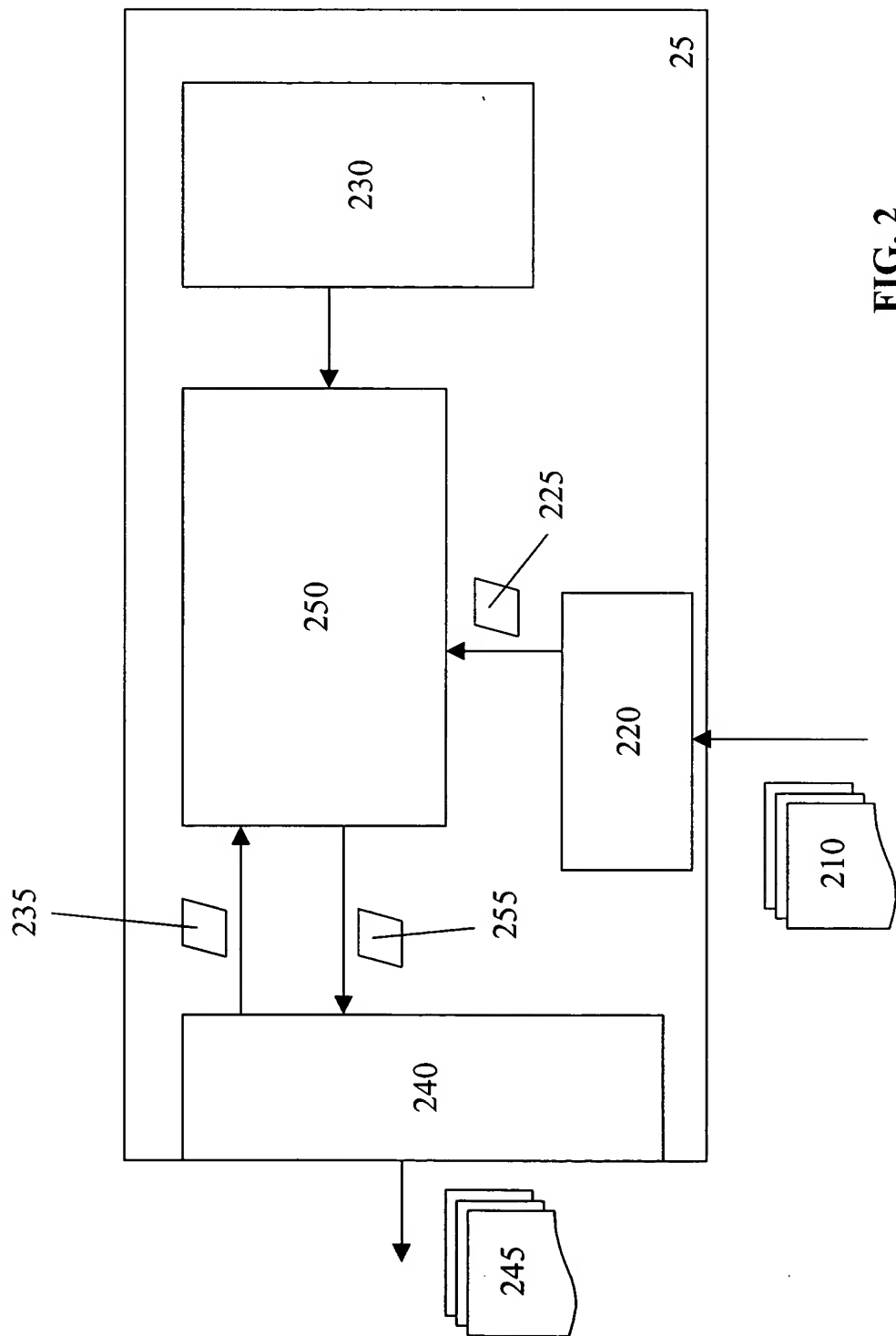
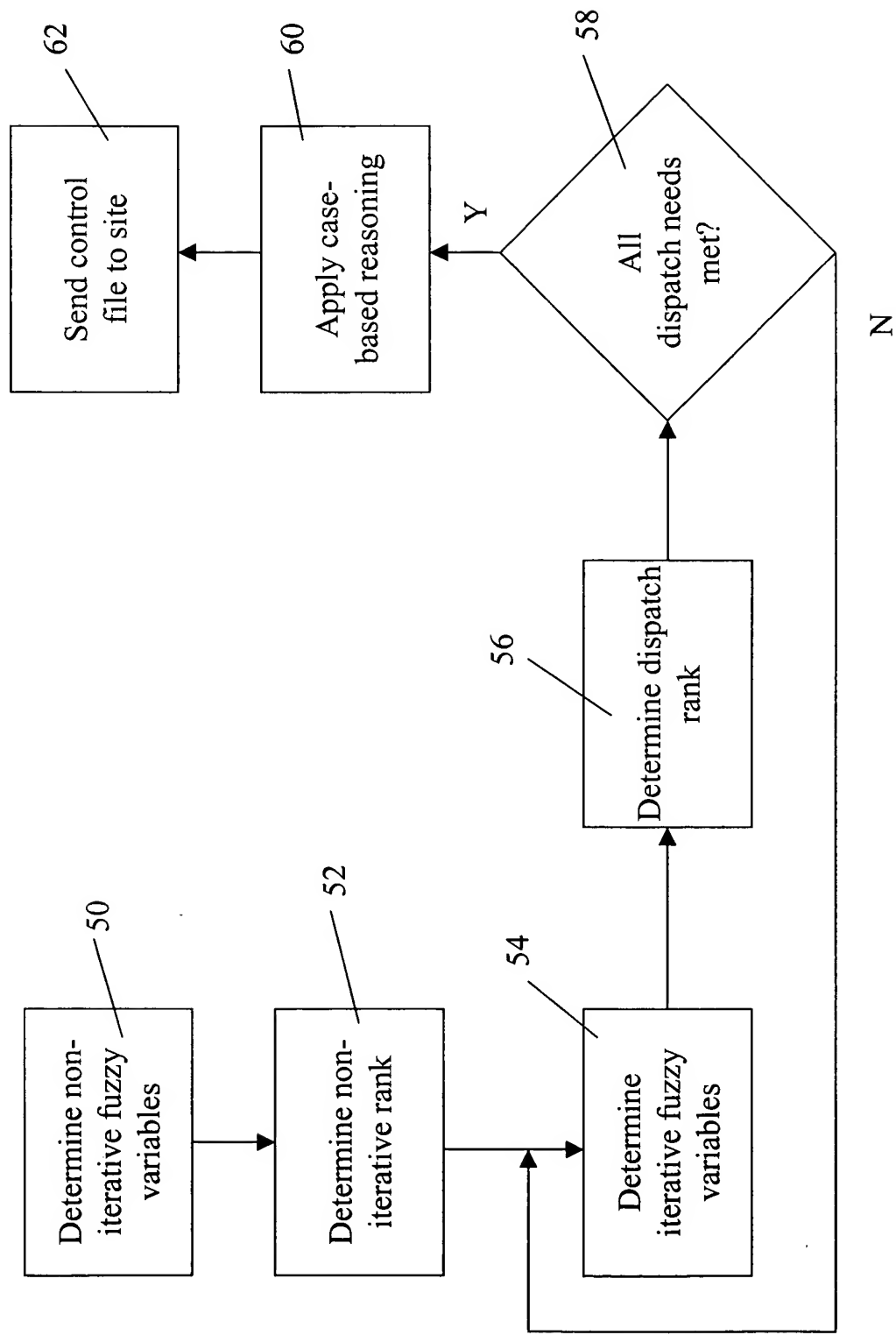
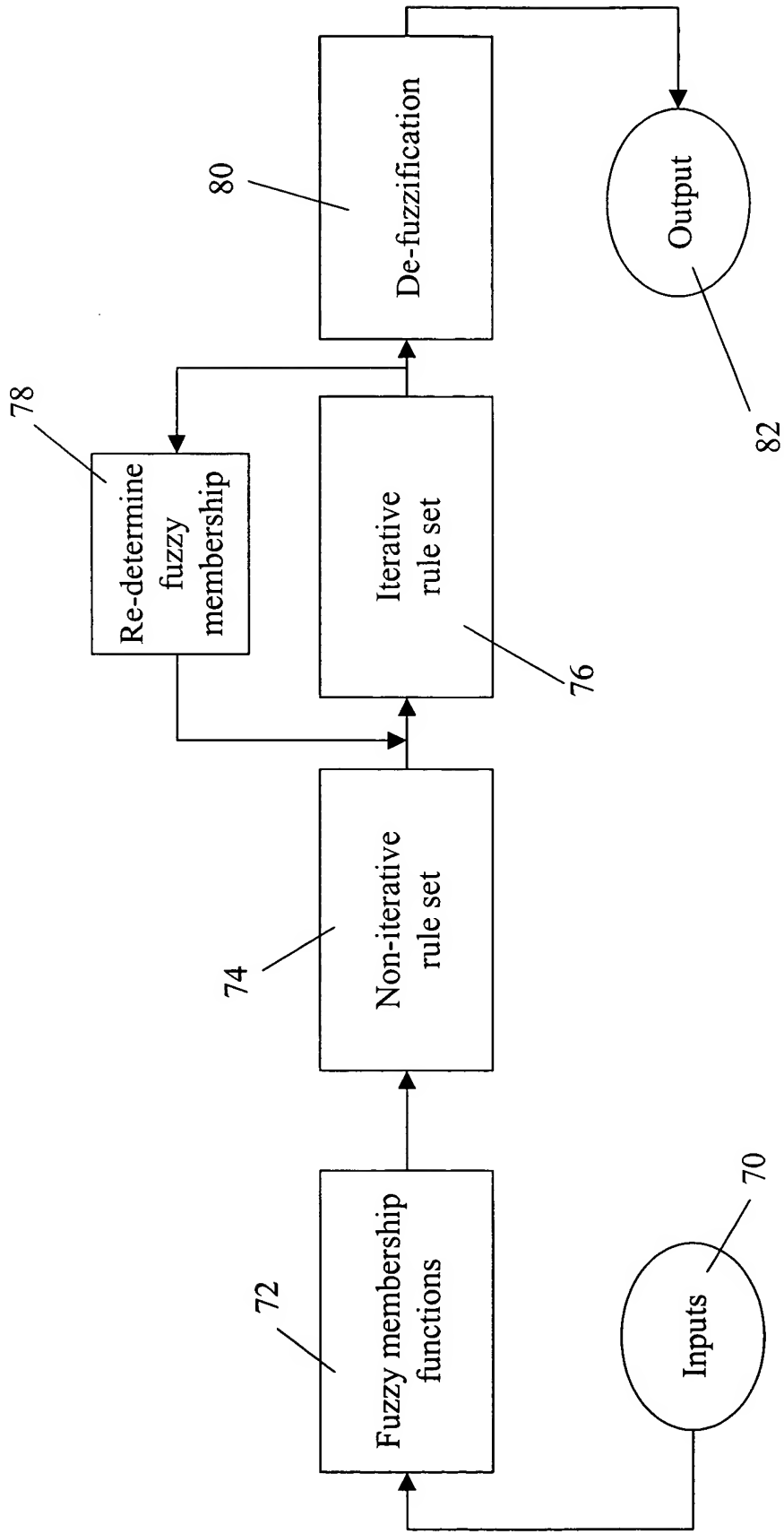


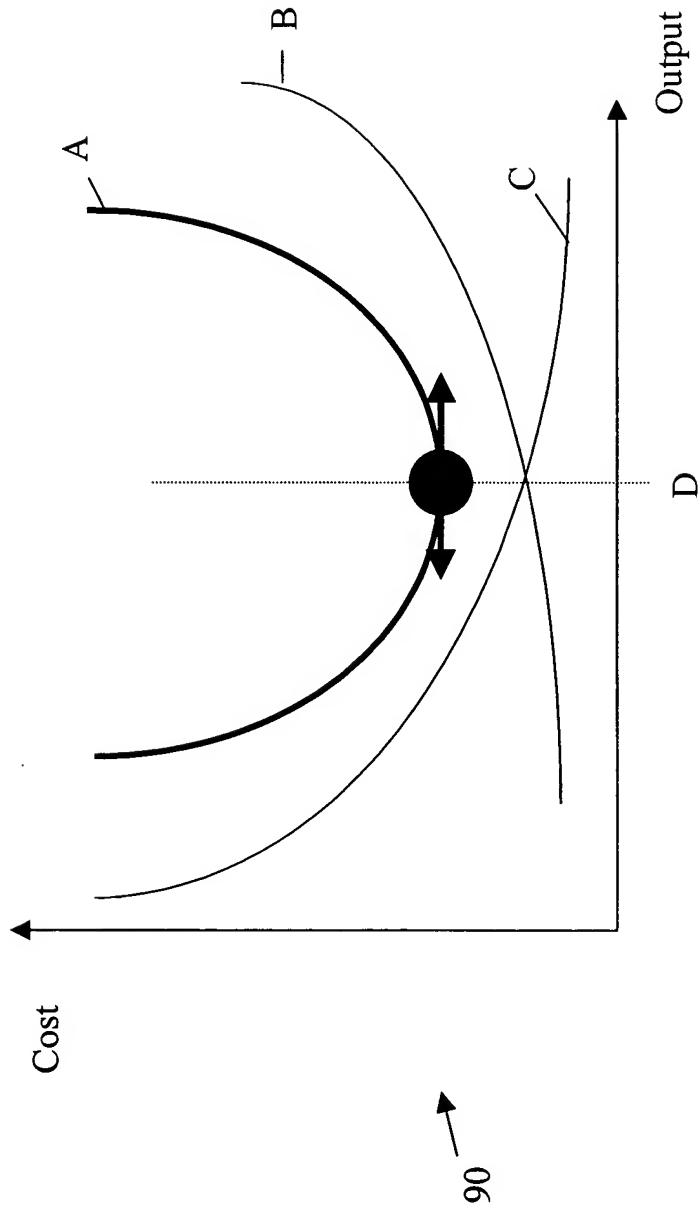
FIG. 2



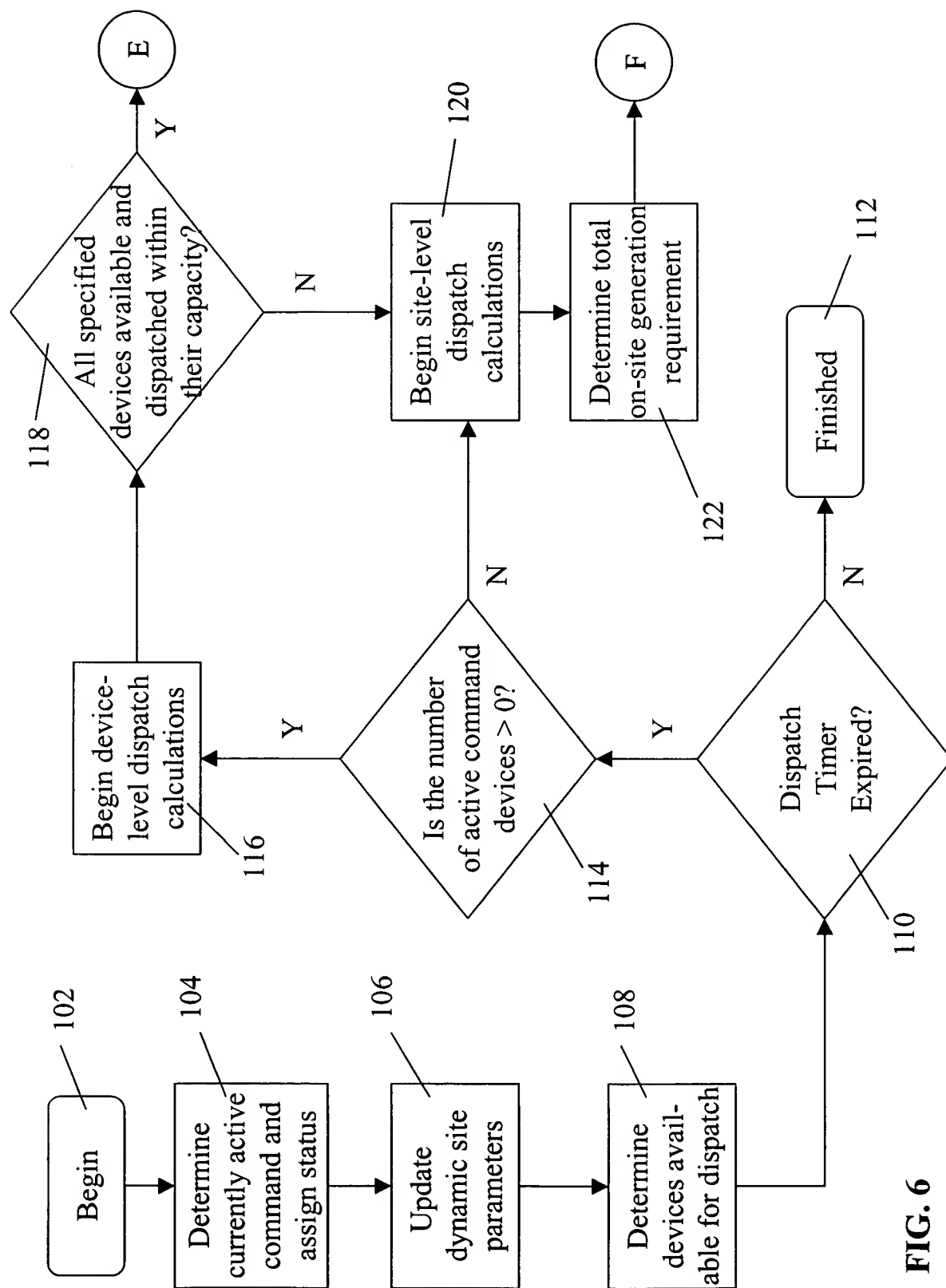
**FIG. 3**



**FIG. 4**



**FIG. 5**

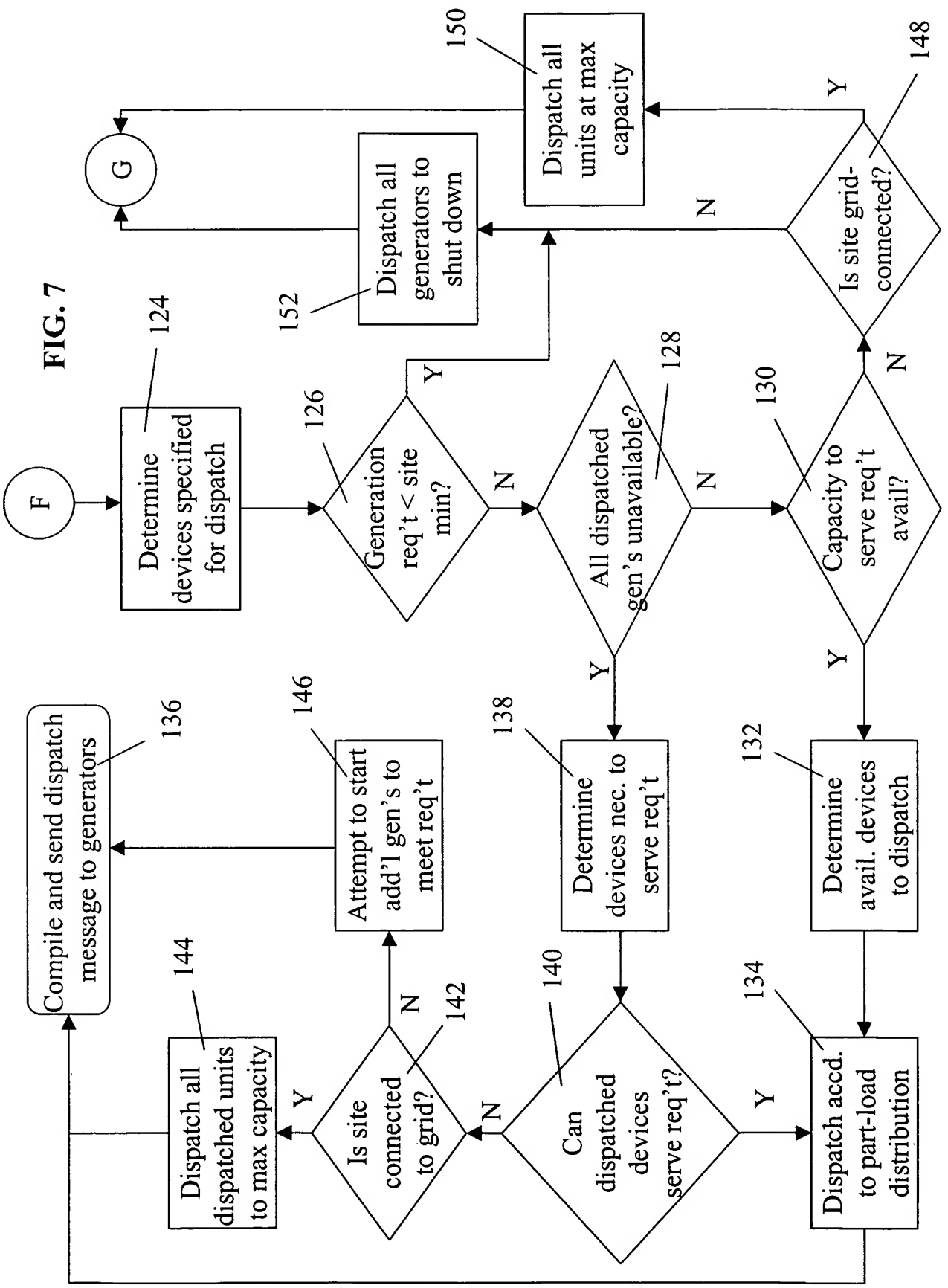


**FIG. 6**

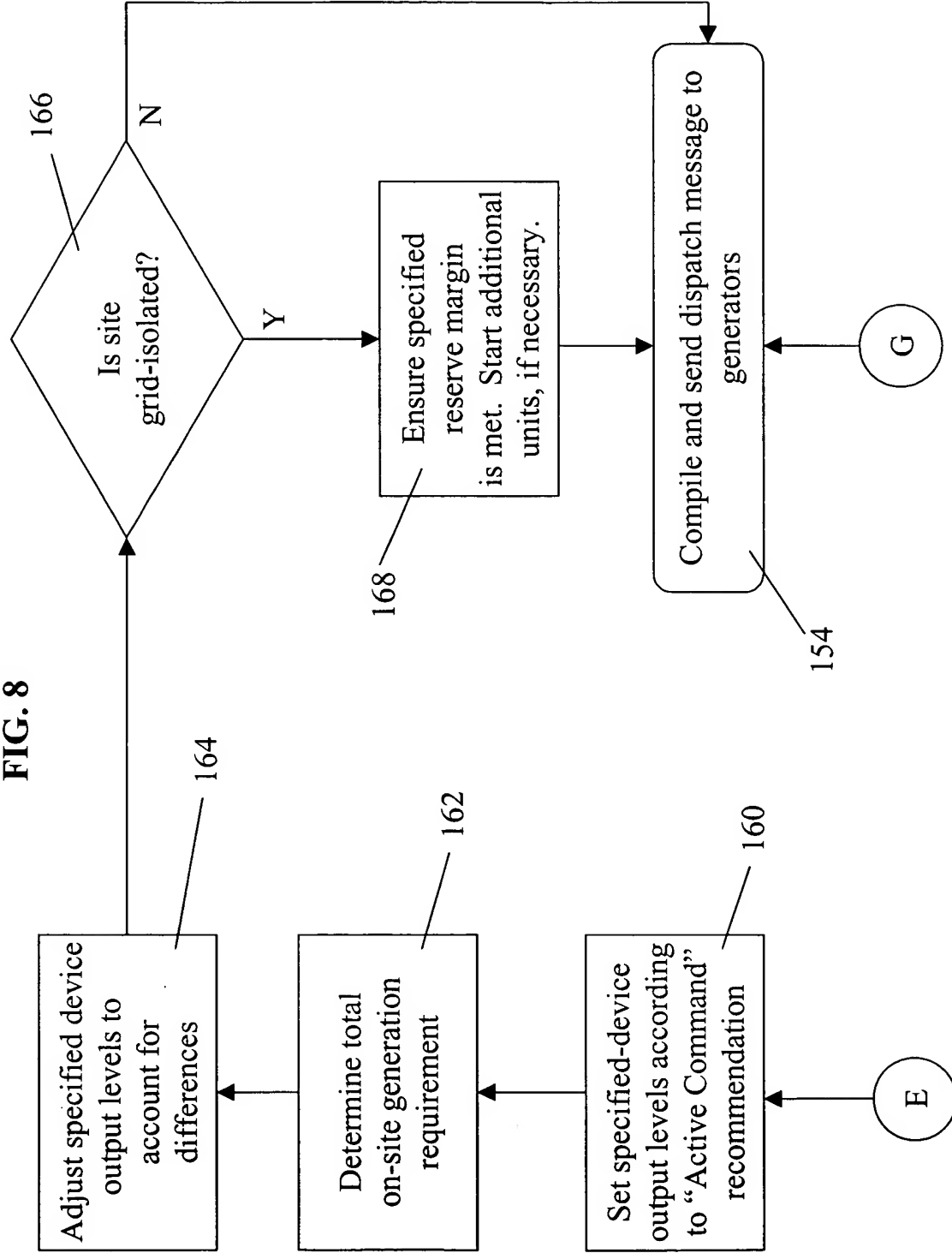
**FIG. 7**

```
graph TD
    F((F)) --> 124[Determine devices specified for dispatch]
    124 --> 126{Generation req't < site min?}
    126 -- Y --> 152[Dispatch all generators to shut down]
    126 -- N --> 128{All dispatched gen's unavailable?}
    152 --> G((G))
    152 --> 150[Dispatch all units at max capacity]
    128 -- Y --> 138[Determine devices nec. to serve req't]
    128 -- N --> 130{Capacity to serve req't avail?}
    138 --> 140{Can dispatched devices serve req't?}
    130 -- Y --> 132[Determine avail. devices to dispatch]
    130 -- N --> 148{Is site grid-connected?}
    140 -- Y --> 134[Dispatch accd. to part-load distribution]
    140 -- N --> 142{Is site connected to grid?}
    132 --> 134
    134 --> 136[Compile and send dispatch message to generators]
    136 --> 144[Dispatched units to max capacity]
    142 -- Y --> 144
    142 -- N --> 146[Attempt to start add'l gen's to meet req't]
    146 --> 136
    144 --> G
    148 -- Y --> 150
    148 -- N --> 128
```

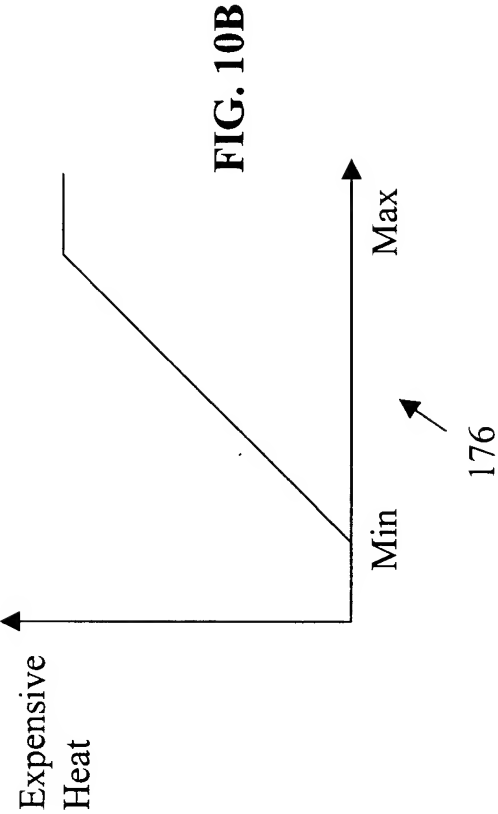
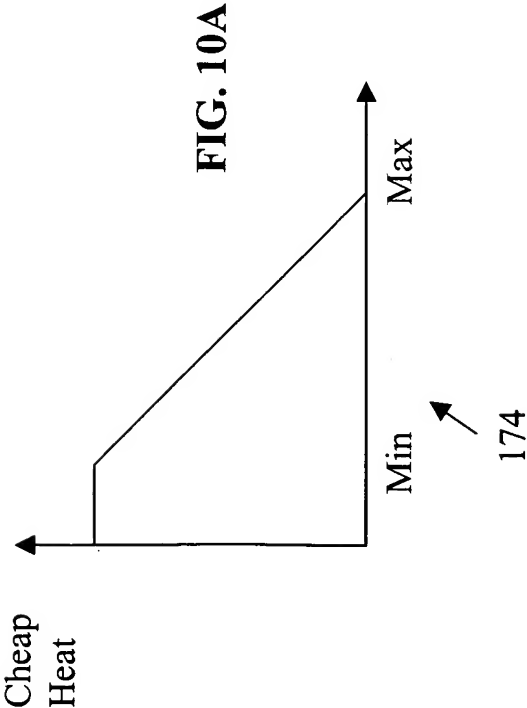
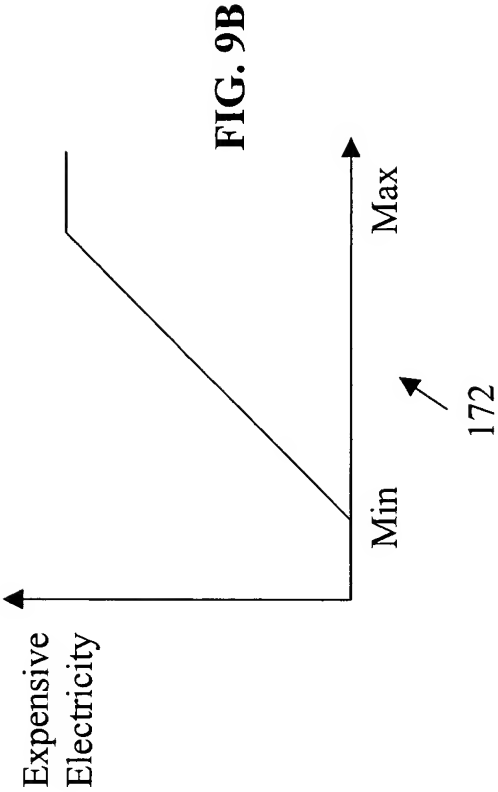
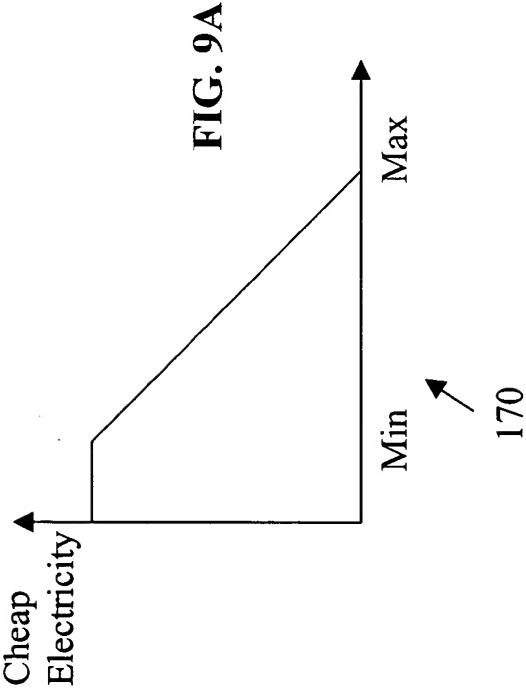
The flowchart illustrates a dispatching method for a power system. It begins with a start point 'F' leading to a process 'Determine devices specified for dispatch' (124). A decision 'Generation req't < site min?' (126) follows. If 'Y', it leads to 'Dispatch all generators to shut down' (152), which then leads to a circular connector 'G'. If 'N', it leads to 'All dispatched gen's unavailable?' (128). From 128, a 'Y' leads to 'Determine devices nec. to serve req't' (138), and an 'N' leads to 'Capacity to serve req't avail?' (130). From 138, a 'Y' leads to 'Can dispatched devices serve req't?' (140). From 130, a 'Y' leads to 'Determine avail. devices to dispatch' (132), and an 'N' leads to 'Is site grid-connected?' (148). From 140, a 'Y' leads to 'Dispatch accd. to part-load distribution' (134), and an 'N' leads to 'Is site connected to grid?' (142). From 132, the flow leads to 134. From 134, the flow leads to 'Compile and send dispatch message to generators' (136). From 136, the flow leads to 'Dispatched units to max capacity' (144). From 142, a 'Y' leads to 144, and an 'N' leads to 'Attempt to start add'l gen's to meet req't' (146). From 146, the flow leads back to 136. From 144, the flow leads to the circular connector 'G'. From 148, a 'Y' leads to 'Dispatch all units at max capacity' (150), and an 'N' leads back to 128. From 150, the flow leads to the circular connector 'G'. The circular connector 'G' is a common point for several paths, including from 152, 144, and 150, which all lead to the final output of the process.

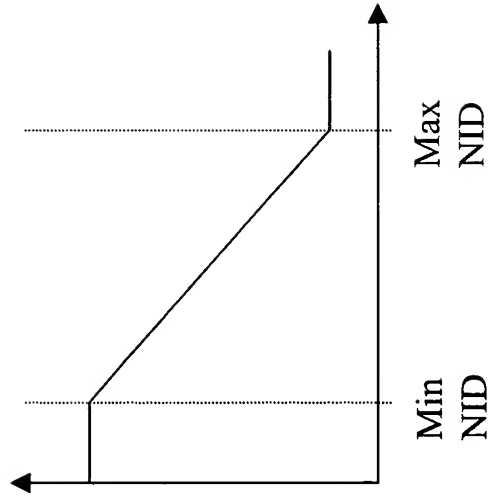
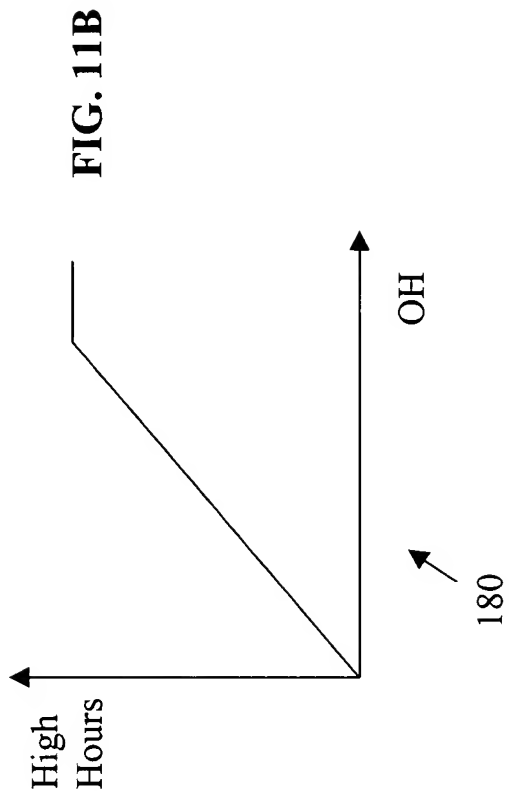
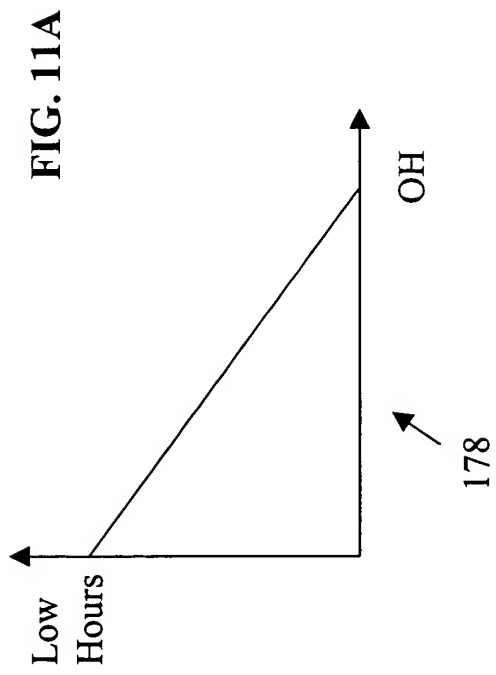


**FIG. 8**

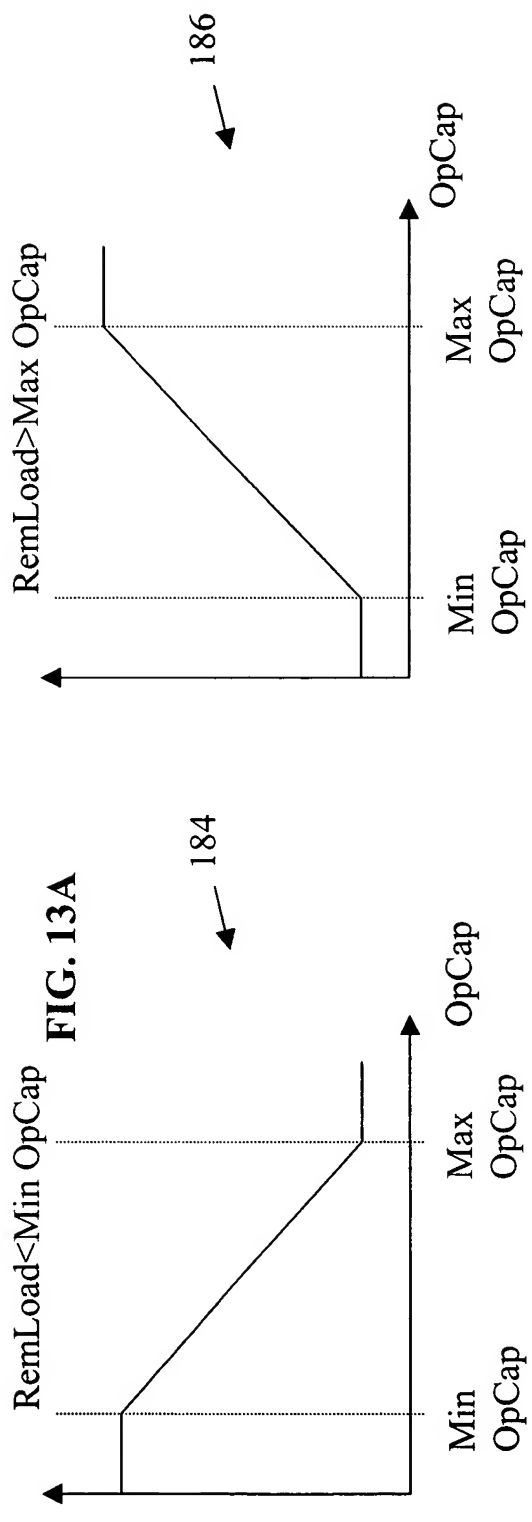




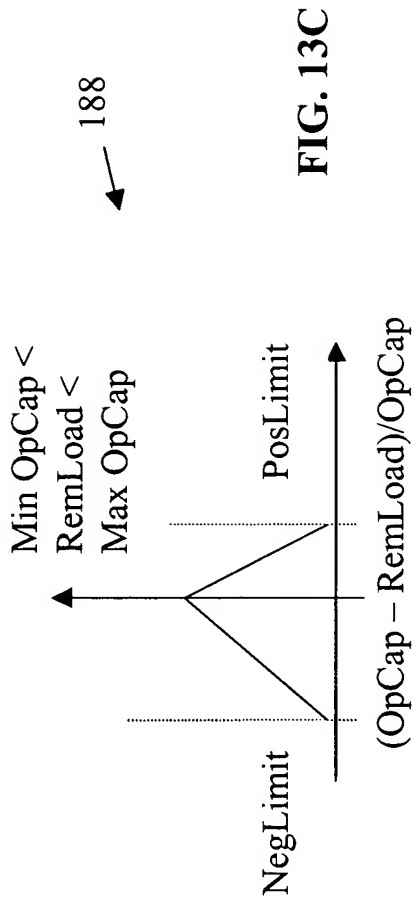
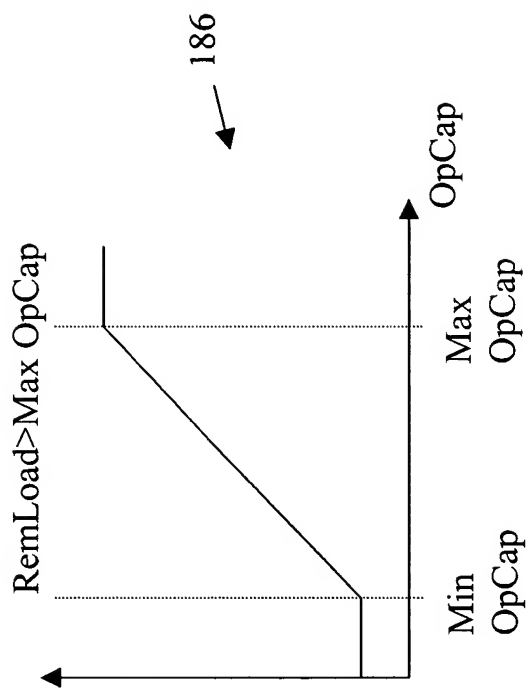




**FIG. 13A**



**FIG. 13B**



**FIG. 13C**

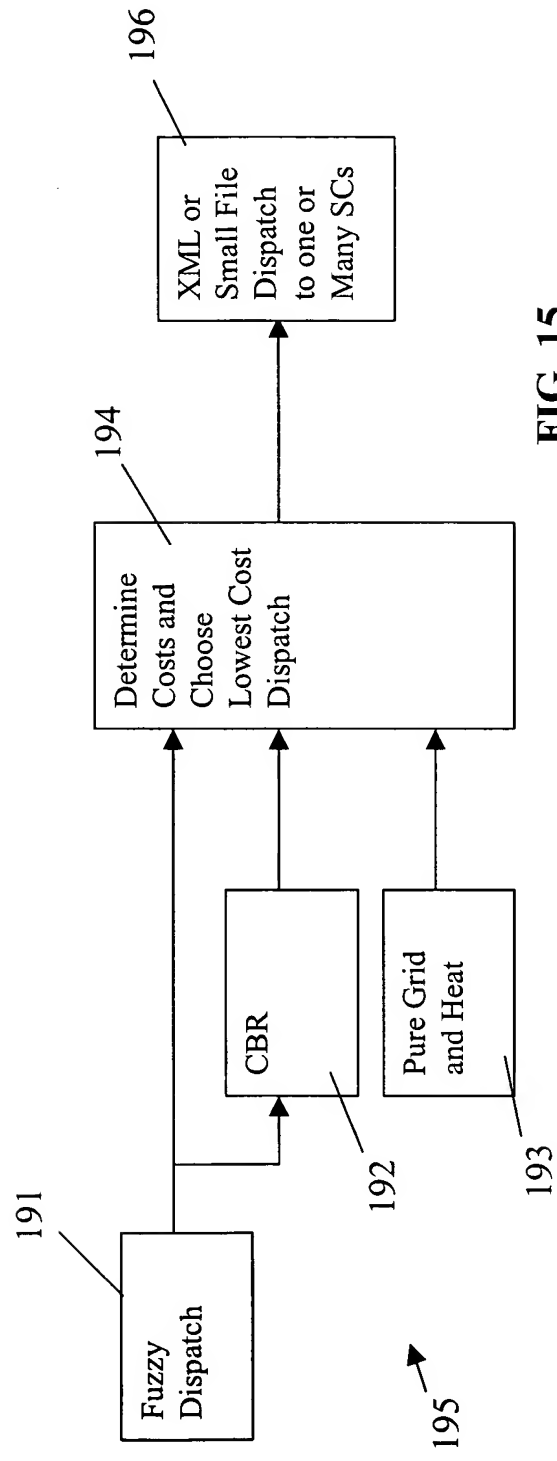
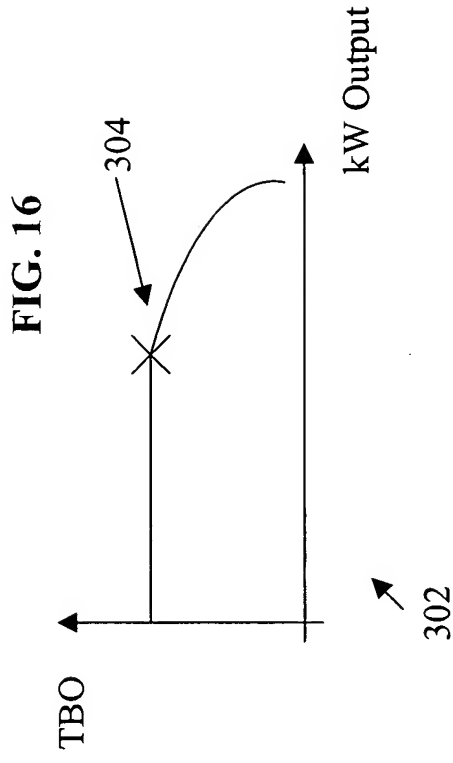
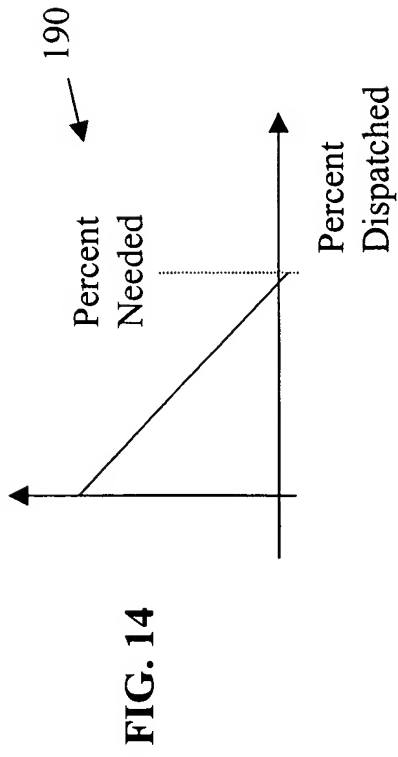
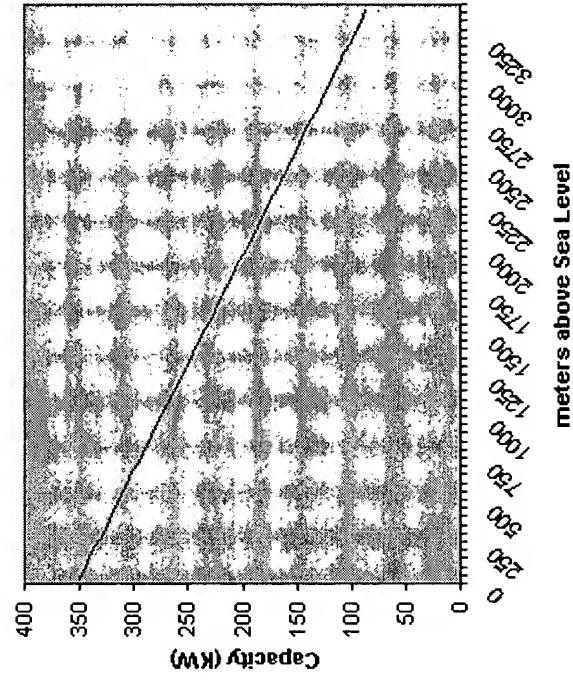


FIG. 17B

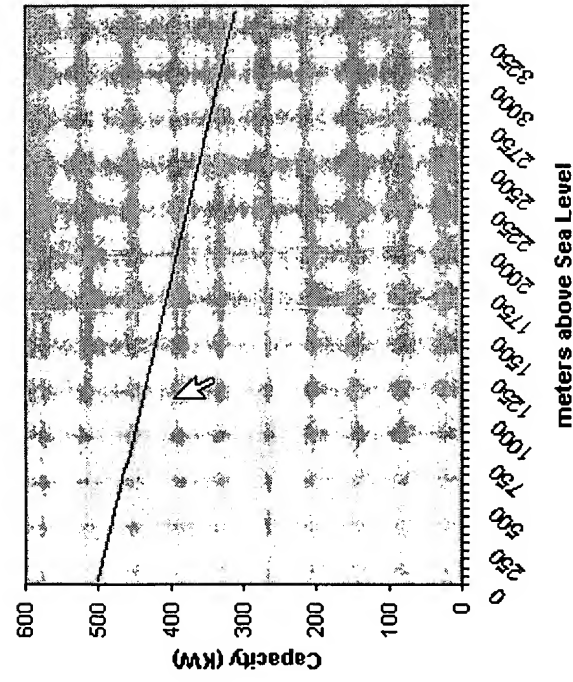
Capacity De-Rate at 35 C



312

FIG. 17A

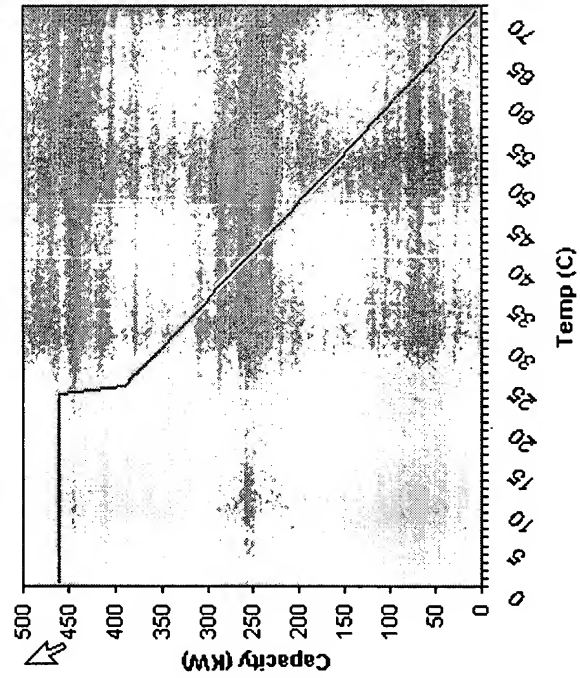
Capacity De-Rate at 0 C



310

FIG. 17C

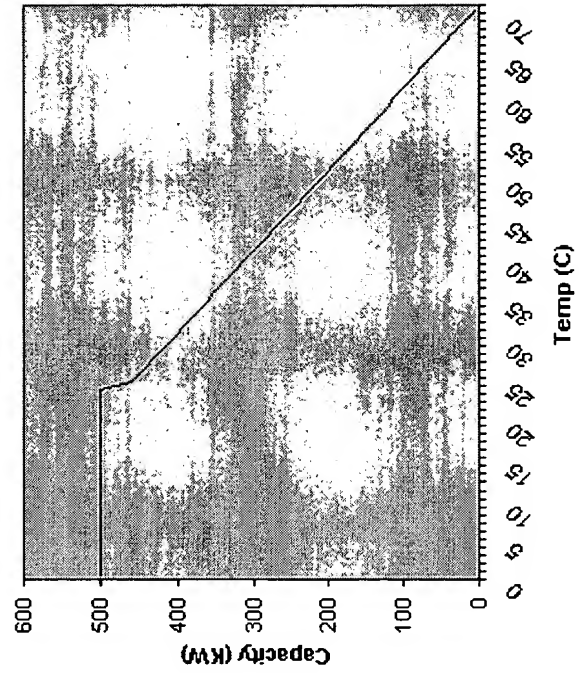
Capacity De-Rate at 700m above Sea Level



314

FIG. 17D

Capacity De-Rate at Sea Level



316

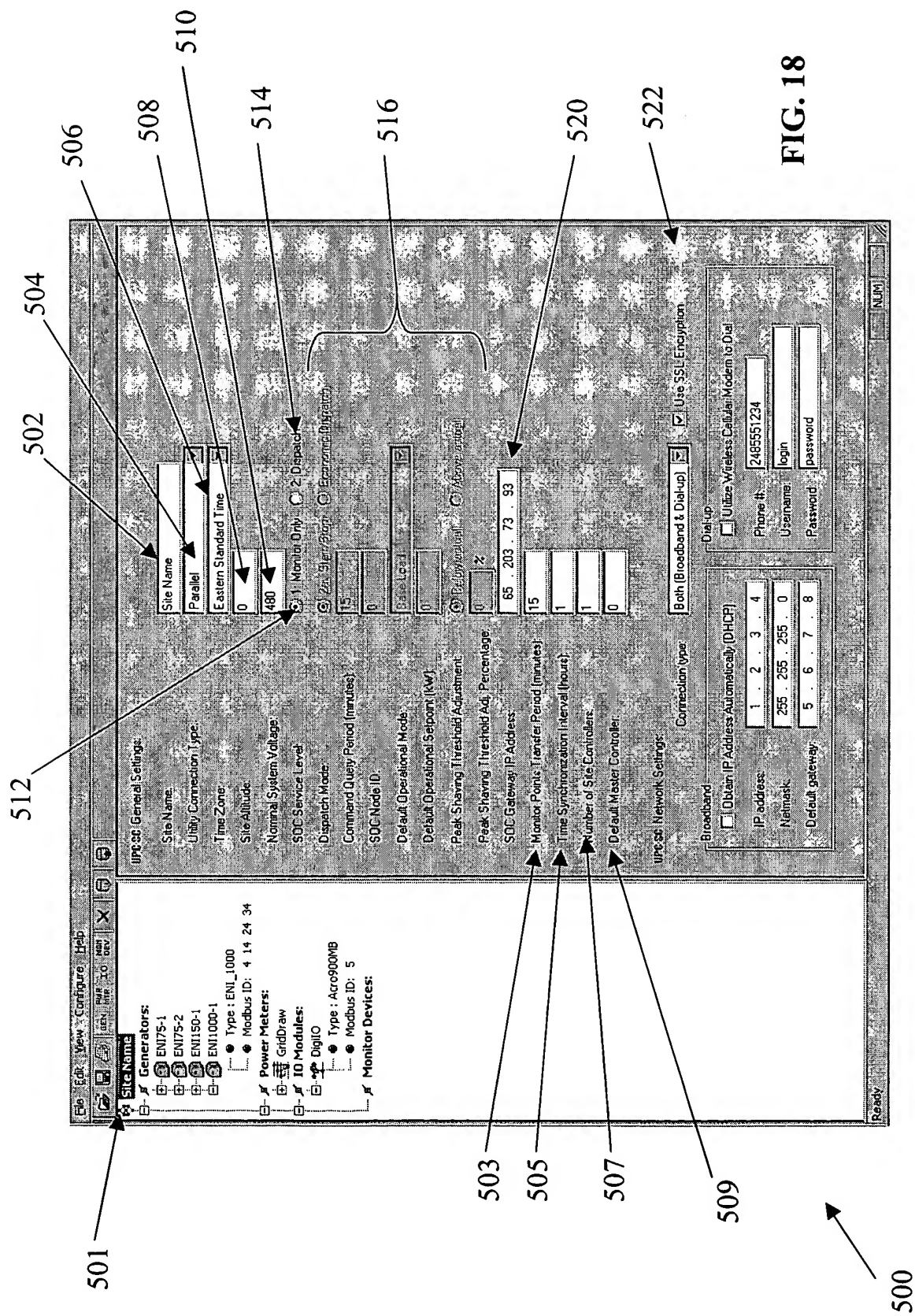


FIG. 18

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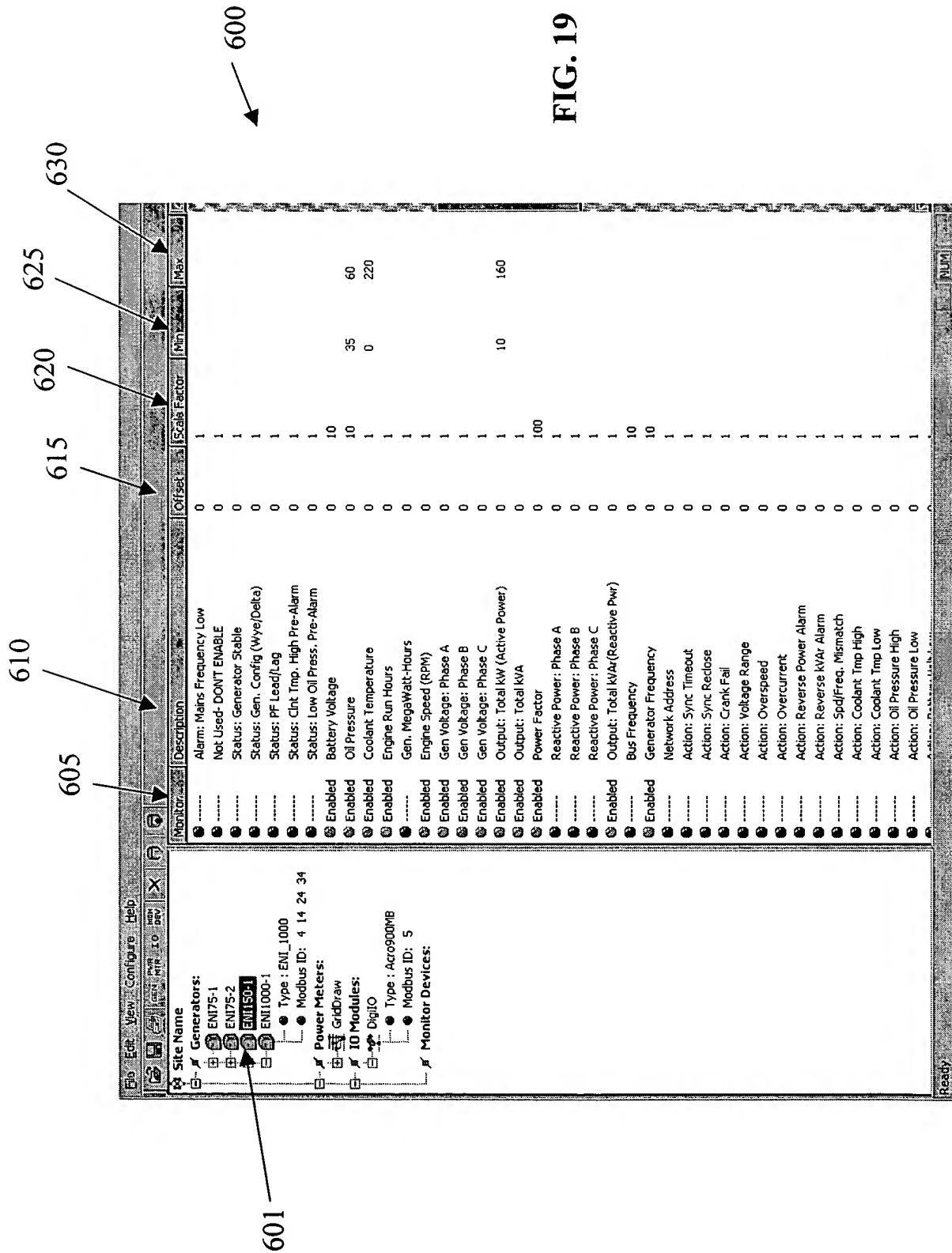




FIG. 20

The screenshot displays a 'Site Configuration' window with a title bar (700) and a menu bar (702) containing 'File', 'Edit', 'View', 'Tools', 'Help', and 'Lab'. The main content area is divided into two sections: 'DTA Site Parameters' and 'DTA Unit Parameters'.

**DTA Site Parameters:**

- DTA Algorithm:** A dropdown menu (712) currently set to 'DTAAlogarithm'.
- Load Following:** A numeric input field (708) with the value '0.0'.
- Reserve Margin:** A numeric input field (706) with the value '0.0'.
- Consider Electric Dispatch:** A checkbox (710) that is checked.
- Consider Thermal Dispatch:** A checkbox (714) that is checked.
- N Minus 1 Required:** A checkbox (716) that is unchecked.
- Small File Required:** A checkbox (718) that is unchecked.
- Logging Enabled:** A checkbox (720) that is checked.

**DTA Unit Parameters:**

- Unit Name:** A text input field (722) containing 'Capstone 60'.
- Optimal Electric Capacity:** A numeric input field (724) with the value '0.9'.
- Maintenance Cost:** A numeric input field (726) with the value '900.0'.
- Maintenance Interval:** A numeric input field (728) with the value '5000'.
- Overhaul Cost:** A numeric input field (730) with the value '7560.0'.
- Overhaul Interval:** A numeric input field (732) with the value '25000'.
- Startup Cost:** A numeric input field (734) with the value '2.85'.
- Shutdown Cost:** A numeric input field (736) with the value '0.0'.
- Consider Thermal Output:** A checkbox (738) that is checked.
- Load Following:** A checkbox (740) that is unchecked.
- Fuel Cost PID:** A numeric input field (742) with the value '4750'.

At the bottom of the window, there are 'Save' and 'Close' buttons (744 and 746 respectively).

FIG. 21

801

Schedule - Site Time Factors

Site

Lab

802

Times Of Year

Description

Start Date

Stop Date

Winter

December

21

March

20

Spring

March

21

June

20

Summer

June

21

September

20

Autumn

September

21

December

20

804

Times Of Week

Description

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Business

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Weekend

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☐

UNUSED

☐

☐

☐

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UNUSED

☐

☐

☐

☐

806

Times Of Day

Description

Start Time

Stop Time

Business Hours

8

30

5

29

Off Hours

5

30

8

29

UNUSED

☐

☐

☐

☐

800

BEST AVAILABLE COPY

FIG. 22

901      904      906      910

**Schedule: Site Schedule**

Site: \_\_\_\_\_ Lab: \_\_\_\_\_

902

Time Of Year	Time Of Week	Time Of Day	Setting	
March 21 - June 20	MTWTHF	5:30 - 8:29	Base Load	Remove
December 21 - March 20	MTWTHF	5:30 - 8:29	Base Load	Remove
September 21 - December 20	MTWTHF	8:30 - 5:29	DTA	Remove
June 21 - September 20	MTWTHF	8:30 - 5:29	DTA	Remove
March 21 - June 20	MTWTHF	8:30 - 5:29	DTA	Remove
December 21 - March 20	MTWTHF	8:30 - 5:29	DTA	Remove
September 21 - December 20	SUS	0:00 - 23:59	Peak Shaving	Remove
June 21 - September 20	SUS	0:00 - 23:59	Peak Shaving	Remove
March 21 - June 20	SUS	0:00 - 23:59	Peak Shaving	Remove
December 21 - March 20	SUS	0:00 - 23:59	Peak Shaving	Remove
September 21 - December 20	MTWTHF	5:30 - 8:29	Base Load	Remove
June 21 - September 20	MTWTHF	5:30 - 8:29	Base Load	Remove

900